

Applicants: Thompson et al.
Serial No. 09/825,909
Page 2 of 10

Listing of Claims:

Please cancel claim 1, 14, 19, and 20 without prejudice or disclaimer as to the subject matter thereof.

1. (canceled)

2. (currently amended) The system of claim 13 wherein said at least one IMD comprises one of: a pacemaker, an implantable cardioverter defibrillator, a drug delivery pump, a neurological stimulator.

3. (currently amended) ~~The system of claim 1~~ A system comprising:
at least one implantable medical device ("IMD") providing therapy delivery,
said IMD including a processor controlling the delivery of therapy to a
patient; and
an external sensor module having at least one physiological sensor
adapted to operatively couple to a surface portion of a lower peripheral
limb of the patient and operational to continuously collect physiological
data of the patient wherein said external sensor module continuously
transmits the continuously collected physiological data to the IMD;
wherein said IMD processor processes the physiological data to produce therapy
delivery control signals in implementation of dynamic, closed-loop self-monitoring
therapy delivery and wherein said external sensor module comprises selected-
from the group consisting of: a wristwatch, a ring, a
patch, a sock-based sensor and wherein said sock-based sensor is adapted to
collect physiological data including at least one of: a patient weight metric, a
patient ankle-swelling metric, a patient activity metric.

Applicants: Thompson et al.
Serial No. 09/825,909
Page 3 of 10

4. (currently amended) The system of claim 13 wherein said external sensor module transmits the physiological data to the IMD over a communication channel including RF signals.

5. (currently amended) The system of claim 13 wherein said physiological sensor is one selected from the group consisting of: a pressure sensor, an oxygen saturation sensor, an cardiac acceleration sensor, a flow sensor, a heart auscultation sensor, an transthoracic impedance sensor.

6.-14. (canceled)

15. (currently amended) A method according to claim 14, wherein said at least one IMD comprises a pacemaker.

16. (currently amended) A method according to claim 14, A method, comprising:
providing therapy delivery using at least one implantable medical device
("IMD"), said IMD including a processor controlling the delivery of
therapy to a patient; and
continuously collecting physiological data of the patient using an external
sensor module having at least one physiological sensor;
continuously transmitting the physiological data from said external sensor
module to the IMD; and
processing the physiological data to produce one or more therapy delivery
control signals in a dynamic, closed-loop, self-monitoring therapy
delivery regime wherein said external sensor module comprises at
least a one of: a wristwatch, a ring, a patch, a sock-based sensor and
wherein said sock-based sensor is adapted to collect physiological
data including at least one of: a patient weight metric, a patient ankle-
swelling metric, a patient activity metric.

Applicants: Thompson et al.
Serial No. 09/825,809
Page 4 of 10

17. (currently amended) A method according to claim 164, wherein said external sensor module transmits the physiological data to the IMD over a communication channel including RF signals.
18. (currently amended) A method according to claim 164, wherein said at least one physiological sensor comprises a one of: a pressure sensor, an oxygen saturation sensor, an ~~cardiac~~-acceleration sensor, a ~~flow~~-sensor, a ~~heart~~-auscultation sensor, an ~~transthoracic~~-impedance sensing apparatus.
- 19.-20. (canceled)
21. (currently amended) A system according to claim 31, wherein the at least one physiologic sensor comprises at least two sensors from of the following group of sensors: a piezoelectric sensor, an LED-based sensor, a surface conductivity sensor, a vibratory sensor, a ~~pressure sensor~~, an ~~oxygen saturation sensor~~, an ~~impedance sensor~~.
22. (previously presented) A system according to claim 21, further comprising a switching means for alternating the respective operating cycles of the at least two sensors to reduce operating interference between said at least two sensors.
23. (previously presented) A system according to claim 21, further comprising a sensor interface disposed adjacent each of the at least two sensors, wherein said sensor interface comprises one of the group: a gel material, a fluid material, an adhesive material, a rubber material, a foam material.

Applicants: Thompson et al.

Serial No. 09/825,909

Page 5 of 10

24. (currently amended) A system according to claim 21, wherein one of the at least two sensors is adapted to couple continuously around the lower peripheral limb of the patient.

25. (new) A computer readable medium for storing instructions for performing a method, comprising:

Instructions for delivering a therapy via at least one implantable medical device ("IMD"), said IMD including a processor controlling the delivery of therapy to a patient;

instructions for automatically collecting physiological data of the patient using an external sensor module having at least one physiological sensor;

instructions for continuously transmitting the collected physiological data from said external sensor module to the IMD; and

Instructions for processing the collected physiological data to produce one or more therapy delivery control signals in a dynamic, closed-loop, self-monitoring therapy delivery regime and wherein said external sensor module comprises a sock-based sensor and wherein said sock-based sensor is adapted to collect physiological data including at least one of: a patient weight metric, a patient ankle-swelling metric, a patient activity metric.